

IN THE SPECIFICATION:

The specification is amended for the purpose of correcting an erroneous word used throughout the specification. Approval is requested.

At page 4, the paragraph beginning at line 13 has been rewritten as follows:

--The problems mentioned above were intensively studied focusing on the glass transition point of the polymer of the reactive ~~origomer~~-oligomer and/or reactive prepolymer and the glass transition point of the polymer of the reactive diluent, which are used for ultraviolet ray curable ink. As a result, obtaining ultraviolet ray curable ink excellent in conformity, scratch resistance and adhesion was made possible by using a composition in which the glass transition point of the polymer mentioned above is within a specific range.--;

the paragraph beginning at line 21 has been rewritten as follows:

--Further, discharging ink having a reduced viscosity was made possible by using ultraviolet ray curable ink comprising a coloring component, reactive diluent, photoinitiator and ~~origomer~~-oligomer component which has compatibility with the reactive diluent, and heating by using a printer head of which the temperature can be increased.--; and

the paragraph beginning at line 26 has been rewritten as follows:

--That is, the present invention relates to ultraviolet ray curable ink comprising a coloring component, a reactive ~~origomer~~-oligomer and/or reactive prepolymer, a reactive diluent and a photoinitiator, wherein the polymer of the reactive origomer oligomer and/or reactive prepolymer and the polymer of the reactive diluent have a glass transition point of 0° to 70°C, respectively.--.

At page 5, the paragraph beginning at line 5 has been rewritten as follows:

--The difference in glass transition point of the reactive ~~origomer~~-oligomer and/or reactive prepolymer and the reactive diluent is preferably within 30°C.--;

the paragraph beginning at line 8 has been rewritten as follows:

--The present invention also relates to an ultraviolet ray curable ink composition comprising a coloring component, a reactive diluent, a photoinitiator and a reactive ~~origomer~~ oligomer and/or reactive prepolymer which has compatibility with the reactive diluent, wherein the ink composition has a viscosity of 60 to 800 cps at 25°C.--;

the paragraph beginning at line 13 has been rewritten as follows:

--The reactive ~~origomer~~ oligomer and/or reactive prepolymer preferably has a viscosity of 40 to 10000 cps at 60°C.--;

the paragraph beginning at line 15 has been rewritten as follows:

--The amount of the reactive ~~origomer~~ oligomer and/or reactive prepolymer is preferably 10 to 80% by weight.--;

the paragraph beginning at line 24 has been rewritten as follows:

--The ultraviolet ray curable ink of the present invention comprises a coloring component, reactive ~~origomer~~ oligomer and/or reactive prepolymer, reactive diluent and photoinitiator.--; and

the paragraph beginning at line 27 has been rewritten as follows:

--The glass transition point (Tg) of the polymer comprising the reactive ~~origomer~~ oligomer and/or reactive prepolymer and Tg of the polymer comprising the reactive diluent are 0° to 70°C, preferably 5° to 50°C, more preferably 10° to 30°C, respectively.--.

At page 6, the paragraph beginning at line 11 has been rewritten as follows:

--The glass transition point (Tg) in the present invention refers to Tg of the polymer comprising the reactive ~~origomer~~oligomer and/or reactive prepolymer and Tg of the polymer comprising the reactive diluent, that is, Tg of homopolymer measured by a differential scanning calorimeter.--;

the paragraph beginning at line 15 has been rewritten as follows:

--By using ultraviolet ray curable ink in which Tg of the polymer of the reactive ~~origomer~~oligomer and/or reactive prepolymer and Tg of the polymer of the reactive diluent is 0° to 70°C, preferably 5° to 50°C, more preferably 10° to 30°C, the scratch resistance, adhesion, flexibility and conformity to the flexible material of the cured film obtained by irradiating with ultraviolet ray become superior. When Tg is higher than 70°C, cured film of ultraviolet ray curable ink becomes too hard, losing flexibility and becomes brittle by contrast. When Tg is lower than 0°C, fastness such as scratch resistance becomes inferior and tackiness tends to develop.--; and

the paragraph beginning at line 25 has been rewritten as follows:

--The reactive ~~origomer~~oligomer and/or reactive prepolymer having a Tg of 0° to 70°C in the polymer thereof is an essential component in the present invention and when necessary, those having a Tg which is outside the range of 0° to 70°C can also be used. In this case, the amount of reactive ~~origomer~~oligomer and/or reactive prepolymer having a Tg outside the range of 0° to 70°C. is preferably at most 20% by weight based on the amount of the reactive ~~origomer~~oligomer and/or reactive prepolymer having a Tg of 0° to 70°C.--.

At page 7, the paragraph beginning at line 18 has been rewritten as follows:

--Also, the difference in the glass transition point of the polymer of the reactive ~~origomer~~oligomer and/or reactive prepolymer and the polymer of the reactive diluent is preferably at most 30°C, more preferably at most 20°C. When the difference is more than 30°C, the property of reactive ~~origomer~~oligomer and/or reactive prepolymer or reactive

diluent becomes noticeable. As a result, the cured film obtained becomes too hard and may develop tackiness.--; and

the paragraph beginning at line 25 has been rewritten as follows:

--The ultraviolet ray curable ink composition for ink jet of the present invention comprises a coloring component, a reactive ~~origomer~~-oligomer and/or reactive prepolymer, a reactive diluent and a photoinitiator, and the viscosity of the ink composition at 25°C is preferably 60 to 800 cps, more preferably 80 to 400 cps and most preferably 100 to 200 cps. When the viscosity of the ink composition at 25°C is less than 60 cps, the reactive ~~origomer~~-oligomer and/or reactive prepolymer is hardly included and sufficient scratch resistance and adhesion cannot be obtained and when the viscosity is more than 800 cps, the viscosity of ink does not decrease sufficiently when heated and the dischargeability of ink is inferior. The viscosity at 60°C is preferably 5 to 80 cps.--.

At page 8, the paragraph beginning at line 9 has been rewritten as follows:

--The reactive ~~origomer~~-oligomer and/or reactive prepolymer in the ultraviolet ray curable ink and ultraviolet ray curable ink composition for ink jet of the present invention is a polymer in which the repeat of the monomer is 2 to about 20 and which has a 2 to 6 double bond reactive groups at the molecular terminal. Examples of the reactive ~~origomer~~-oligomer and/or reactive prepolymer are urethane acrylate, polyester acrylate, epoxy acrylate, silicone acrylate and polybutadiene acrylate and these may be used alone or in a combination thereof.-  
-;

the paragraph beginning at line 17 has been rewritten as follows:

--The reactive ~~origomer~~-oligomer and/or reactive prepolymer has a smaller number of cross-linking points compared to monomers and when used in the ultraviolet ray curable ink composition, a cured film improved in strength and adhesion can be prepared by irradiating with ultraviolet ray.--;

the paragraph beginning at line 22 has been rewritten as follows:

--Among the reactive ~~origomer~~oligomer and/or reactive prepolymers mentioned above, urethane acrylate is preferable from the viewpoint of excellent adhesion to various materials, toughness, flexibility, chemical resistance and low temperature properties.--; and

the paragraph beginning at line 26 has been rewritten as follows:

--Urethane acrylate is high in viscosity compared to other reactive ~~origomer~~oligomer and/or reactive prepolymers and therefore has been used only in a small amount in the conventional ink. In the present invention, however, as ink can be heated for use, urethane acrylate can be added in a large amount. In view of the melt viscosity when heated, the amount of urethane acrylate added is preferably 10 to 60% by weight in the ink composition and adjusted to any amount within the range considering adhesion to materials, flexibility and scratch resistance of the cured film.--.

At page 9, the paragraph beginning at line 8 has been rewritten as follows:

--The number of functional groups in the reactive ~~origomer~~oligomer and/or reactive prepolymer molecule is preferably two. When the number of the functional groups is large in the ink components, the number of crosslinking points in the cured film increases and the cured film obtained becomes hard. However, the adhesion and scratch resistance of the film tends to be inferior. For this reason, the number of functional groups is preferably small and especially two, in that the molecules do not form a continuous film unless each of the molecules contains at least two functional groups.--;

the paragraph beginning at line 17 has been rewritten as follows:

--Further, regarding the reactive ~~origomer~~oligomer and/or reactive prepolymer, one which can be completely mixed with the reactive diluent mentioned below is selected from the viewpoint of ensuring stability when heating ink and forming a uniform cured film.--; and

the paragraph beginning at line 21 has been rewritten as follows:

The reactive ~~origomer-oligomer~~ and/or reactive prepolymer used in the present invention preferably has a viscosity at 60°C of 40 to 10000 cps, more preferably 40 to 7000 cps. When the viscosity at 60°C of reactive ~~origomer-oligomer~~ and/or reactive prepolymer is less than 40 cps, the molecular weight of the reactive ~~origomer-oligomer~~ and/or reactive prepolymer is expected to be insufficient and therefore the scratch resistance and adhesion of the cured film obtained therefrom tends to be inferior. When the viscosity is more than 10000 cps, the amount to be added in the ink is limited to a very small amount and the reactive diluent becomes predominant in the ink components and therefore the scratch resistance and adhesion of the cured film tends to be inferior.--.

At page 10, the paragraph beginning at line 5 has been rewritten as follows:

--The amount of reactive ~~origomer-oligomer~~ and/or reactive prepolymer is preferably 10 to 80% by weight, more preferably 10 to 60% by weight within the ink composition. When the amount of reactive ~~origomer-oligomer~~ and/or reactive prepolymer is less than 10% by weight, the reactive diluent becomes predominant in the ink components and therefore the scratch resistance and adhesion of the cured film tends to be insufficient. When the amount of reactive ~~origomer-oligomer~~ and/or reactive prepolymer is more than 80% by weight, there is the disadvantage that the viscosity of the ink is too high to be injected.--.

At page 11, the paragraph beginning at line 23 has been rewritten as follows:

--The reactive diluent, as well as the reactive ~~origomer-oligomer~~ and/or reactive prepolymer, is preferably a difunctional group compound. This is because when the number of functional groups in the ink component is large, the cured film becomes hard as the crosslinking points increase but becomes brittle by contrast and the adhesion and scratch resistance tends to be inferior.--.

At page 12, the paragraph beginning at line 20 has been rewritten as follows:

--The amount of reactive diluent is preferably 10 to 90% by weight, more preferably 40 to 80% by weight in the ink composition. When the amount of reactive diluent is less than 10% by weight, the viscosity of ink may not decrease sufficiently and as the reactive ~~origomer~~ oligomer and/or prepolymer becomes predominant in the ink components, sudden change in viscosity may occur due to a small change in temperature. Moreover, in some cases the ink comes to have a non-Newton fluid property, causing nozzle clogging and satellite, which is not good for discharge. When the amount of reactive diluent is more than 90% by weight, as the reactive diluent becomes predominant in the ink components, the scratch resistance and adhesion of the obtained cured film tends to be inferior.--.

At page 13, the paragraph beginning at line 22 has been rewritten as follows:

--Of these, a photoinitiator which has compatibility with both the reactive ~~origomer~~ oligomer and/or prepolymer and reactive diluent, has a reduced odor and does not react with natural light is preferable.--.

At page 15, the paragraph beginning at line 1 has been rewritten as follows:

--The ultraviolet ray curable ink and the ultraviolet ray curable ink composition for ink jet of the present invention can be obtained by mixing a coloring component, reactive diluent, photoinitiator, reactive ~~origomer~~ oligomer and/or prepolymer and if necessary a resin and other additives and by dispersing the mixture using a dispersing apparatus such as a roll mill, ball mill, colloid mill, jet mill and bead mill and then filtrating.--;

the paragraph beginning at line 17 has been rewritten as follows:

--The ink may be discharged after reducing the viscosity by heating with a heating means installed in the head used in the ink jet method. As the ink can be heated in this system, a large amount of reactive ~~origomer~~ oligomer and/or prepolymer can be added. In consideration of the melt viscosity when heated, the amount of reactive ~~origomer~~ oligomer and/or prepolymer is preferably 10 to 60% by weight and can be randomly changed within the

range considering adhesion and conformity to the material, and scratch resistance of the cured film.--; and

the paragraph beginning at line 25 has been rewritten as follows:

--The ink jet printing machine using ultraviolet ray curable ink which can be heated is not particularly limited. A heating means may be installed in the head of a usual ink jet printer to reduce the viscosity by heating. The heating temperature is room temperature to 150°C, preferably 30° to 70°C and determined from the thermal curability of the reactive ~~origomer~~ oligomer and/or prepolymer used, that is, the heating temperature is set lower than the point from which heat curing is initiated. The viscosity of ink discharged under a heating condition is preferably 1 to 100 cps, more preferably 5 to 50 cps.--.

At page 16, the paragraph beginning at line 17 has been rewritten as follows:

--The heating temperature when using the printer head in that case is 40° to 150°C, preferably 45° to 100°C. The heating temperature is determined considering the curability of the reactive ~~origomer~~ oligomer and/or prepolymer used. When the heating temperature is too low, sufficient decrease in the viscosity of the ink cannot be expected and the viscosity becomes unstable. When the heating temperature is too high, polymerization advances due to the heat energy, causing thickening and collapse of the dispersion state of pigment within the resin.--.

At page 17, the paragraph beginning at line 2 has been rewritten as follows:

--Generally in both aqueous and solvent type ink compositions, except for medium, a high molecular weight resin is the major component constituting the ink composition which is not for ink jet printing. The advantage is imparting flexibility to the resin film, improving adhesion and increasing film strength. The ultraviolet ray curable resin ink used in screen printing is not an exception and an ~~origomer~~ oligomer and/or prepolymer which contains a reactive group in the molecule is added as the polymer material.--;



the paragraph beginning at line 16 has been rewritten as follows:

--Therefore adding a large amount of a reactive group containing ~~origomer-oligomer~~ or prepolymer component which lacks fluidity at room temperature becomes possible. As a larger amount of reactive ~~origomer-oligomer~~ or prepolymer component can be added to the ink compared to the conventional low viscosity ultraviolet ray curable ink for ink jet containing monomers as a main component, the crosslinking points in the cured film decrease and the high molecular weight material forms the basic structure and as a result, the flexibility of the cured film is improved.--; and

the paragraph beginning at line 25 has been rewritten as follows:

Here, not only reactive ~~origomer-oligomer~~ or prepolymer but also the reactive diluent (special acrylate monomer) of a relatively high molecular weight can be added and this contributes to the improvement of the flexibility of the cured film.--.

At page 18, the paragraph beginning at line 2 has been rewritten as follows:

--Furthermore, as a reactive group containing ~~origomer-oligomer~~ or prepolymer component which lacks fluidity can be added, a wide variety of reactive ~~origomer-oligomer~~ and prepolymer which contains various functional groups in the molecular structure can be selected and therefore the adhesion can be improved for many kinds of materials.--.

At page 19, the paragraph beginning at line 27 has been rewritten as follows:

--20 parts by weight of Ebecryl 8402 (reactive ~~origomer-oligomer~~: urethane acrylate, difunctional, Tg = 14°C, viscosity at 60°C: 800 cps, available from Daicel UCB Co., Ltd.) as ultraviolet ray curable ink, 73.7 parts by weight of SR-268 (reactive diluent: tetraethylene glycol diacrylate, difunctional, Tg = 23°C, available from Sartomer Company), 1 part by weight of HOSTAPERM PINK E-02 (quinacridone red, available from Clariant Japan K.K.) as a coloring component, 0.3 part by weight of Flowlen DOPA-33 (modified acrylic copolymer available from Kyoeisha Chemical Co, Ltd.) as a dispersant and 5 parts by weight of Darocur 1173 (2-hydroxy-2-methyl-1-phenyl-propane-one, available from Ciba Specialty

Chemicals Inc) as a photoinitiator were mixed and the mixture was dispersed by using a bead mill. Filtration was conducted to remove impurities and homogeneous magenta ultraviolet ray curable ink was obtained. The viscosity of the obtained ink was 46.7 cps at 25°C and 13.1 cps at 60°C.--.

At page 22, the paragraph beginning at line 8 has been rewritten as follows:

--20 parts by weight of Ebecryl 450 (reactive ~~origomer~~oligomer: polyester acrylate, hexafunctional, Tg = 17°C, viscosity at 60°C: 410 cps, available from Disel USB Co., Ltd.) as ultraviolet ray curable ink, 73.7 parts by weight of SR-268 (reactive diluent: tetraethylene glycol diacrylate, difunctional, Tg = 23°C, available from Sartomer Company), 1 part by weight of HOSTAPERM PINK E-02 (quinacridone red, available from Clariant Japan K.K.) as a coloring component, 0.3 part by weight of Flowlen DOPA-33 (modified acrylic copolymer available from Kyoeisha Chemical Co, Ltd.) as a dispersant and 5 parts by weight of Darocur 1173 (2-hydroxy-2-methyl-1-phenyl-propane-one, available from Ciba Specialty Chemicals Inc) as a photoinitiator were mixed and the mixture was dispersed in the same manner as in Example 1. Filtration was conducted to remove impurities and homogeneous magenta ultraviolet ray curable ink was obtained. The viscosity of the obtained ink was 32.1 cps at 25°C and 9.6 cps at 60°C.--.

At page 23, the paragraph beginning at line 11 has been rewritten as follows:

--30 parts by weight of CN-981 (reactive ~~origomer~~oligomer: urethane acrylate, difunctional, Tg = 22°C, viscosity at 60°C: 6190 cps, available from Sartomer Company) as ultraviolet ray curable ink, 63.7 parts by weight of SR-268 (reactive diluent: tetraethylene glycol diacrylate, difunctional, Tg = 23°C, available from Sartomer Company), 1 part by weight of HOSTAPERM PINK E-02 (quinacridone red, available from Clariant Japan K.K.) as a coloring component, 0.3 part by weight of Flowlen DOPA-33 (modified acrylic copolymer available from Kyoeisha Chemical Co, Ltd.) as a dispersant and 5 parts by weight of Darocur 1173 (2-hydroxy-2-methyl-1-phenyl-propane-one, available from Ciba Specialty Chemicals Inc) as a photoinitiator were mixed and the mixture was dispersed in the same manner as in Example 1. Filtration was conducted to remove impurities and homogeneous

magenta ultraviolet ray curable ink was obtained. The viscosity of the obtained ink was 110.0 cps at 25°C and 21.4 cps at 60°C.--.

At page 24, the paragraph beginning at line 13 has been rewritten as follows:

--20 parts by weight of CN-965 (reactive ~~origomer~~oligomer: urethane acrylate, difunctional, Tg = -37°C, viscosity at 60°C: 9975 cps, available from Sartomer Company), 73.7 parts by weight of SR-268 (reactive diluent: tetraethylene glycol diacrylate, difunctional, Tg = 23°C, available from Sartomer Company), 1 part by weight of HOSTAPERM PINK E-02 (quinacridone red, available from Clariant Japan K.K.) as a coloring component, 0.3 part by weight of Flowlen DOPA-33 (modified acrylic copolymer available from Kyoeshia Chemical Co., Ltd.) as a dispersant and 5 parts by weight of Darocur 1173 (2-hydroxy-2-methyl-1-phenyl-propane-one, available from Ciba Specialty Chemicals Inc) as a photoinitiator were mixed and the mixture was dispersed in the same manner as in Example 1. Filtration was conducted to remove impurities and homogeneous magenta ultraviolet ray curable ink was obtained. The viscosity of the obtained ink was 73.4 cps at 25°C and 33.5 cps at 60°C.--.

At page 25, the paragraph beginning at line 15 has been rewritten as follows:

--20 parts by weight of Ebecryl 8402 (reactive ~~origomer~~oligomer: urethane acrylate, difunctional, Tg = 14°C, viscosity at 60°C: 800 cps, available from Daicel UCB Co., Ltd.), 73.7 parts by weight of M-270 (reactive diluent: polypropylene glycol diacrylate, difunctional, Tg = -32°C, available from Toa Gosei Co., Ltd.), 1 part by weight of HOSTAPERM PINK E-02 (quinacridone red, available from Clariant Japan K.K.) as a coloring component, 0.3 part by weight of Flowlen DOPA-33 (modified acrylic copolymer available from Kyoeshia Chemical Co., Ltd.) as a dispersant and 5 parts by weight of Darocur 1173 (2-hydroxy-2-methyl-1-phenyl-propane-one, available from Ciba Specialty Chemicals Inc) as a photoinitiator were mixed and the mixture was dispersed in the same manner as in Example 1. Filtration was conducted to remove impurities and homogeneous magenta ultraviolet ray curable ink was obtained. The viscosity of the obtained ink was 175 cps at 25°C and 33.5 cps at 60°C.--.

At page 26, the paragraph beginning at line 17 has been rewritten as follows:

--20 parts by weight of Ebecryl 8402 (reactive ~~origomer~~oligomer: urethane acrylate, difunctional, Tg = 14°C, viscosity at 60°C: 800 cps, available from Daicel UCB Co., Ltd.), 73.7 parts by weight of Light acrylate NP-A (reactive diluent: neopentyl glycol diacrylate, difunctional, Tg = 117°C, available from Kyoeisha Chemical Co., Ltd.), 1 part by weight of HOSTAPERM PINK E-02 (quinacridone red, available from Clariant Japan K.K.) as a coloring component, 0.3 part by weight of Flowlen DOPA-33 (modified acrylic copolymer available from Kyoeisha Chemical Co., Ltd.) as a dispersant and 5 parts by weight of Darocur 1173 (2-hydroxy-2-methyl-1-phenyl-propane-one, available from Ciba Specialty Chemicals Inc) as a photoinitiator were mixed and the mixture was dispersed in the same manner as in Example 1. Filtration was conducted to remove impurities and homogeneous magenta ultraviolet ray curable ink was obtained. The viscosity of the obtained ink was 21.3 cps at 25°C and 8.7 cps at 60°C.--.

At page 27, the paragraph beginning at line 18 has been rewritten as follows:

--Regarding Examples 1 to 3 and Comparative Examples 1 to 3, the test results of scratch resistance, adhesion and conformity, Tg of the polymer of reactive ~~origomer~~oligomer and/or prepolymer and Tg of the polymer of reactive diluent are indicated in Table 1.--.

At page 28, Table 1 and the following paragraph have been amended as follows:

--TABLE 1

	Ex. 1	Ex. 2	Ex. 3	Com. Ex. 1	Com. Ex. 2	Com Ex. 3
Scratch resistance	O	O	O	x	x	O
Adhesion	O	O	O	O	O	x
Conformity	O	Δ	O	O	O	x
Glass transition point of polymer of reactive <del>origomer</del> <u>oligomer</u> /prepolymer (°C)	14	17	22	-37	14	14
Glass transition point of polymer of reactive diluent (°C)	23	23	23	23	-32	117

The results in Table 1 indicate that in order to fulfill the fastness properties, using reactive ~~oligomer-oligomer~~ and/or prepolymer having a glass transition point (Tg) within the range of 0° to 70°C and reactive diluent is preferable. The results also indicate that urethane acrylate is more preferable compared to polyester acrylate.--and

The paragraph beginning at line 10 has been rewritten as follows:

--20 parts by weight of Ebecryl 270 (urethane acrylate, difunctional, Tg = -27°C, viscosity at 60°C: 3000 cps, available from Daicel UCB Co., Ltd.) as a reactive ~~oligomer~~ oligomer, 73.7 parts by weight of SR-268 (tetraethylene glycol diacrylate, difunctional, Tg = 23°C, available from Sartomer Company) as a reactive diluent, 1 part by weight of HOSTAPERM PINK E-02 (quinacridone red, available from Clariant Japan K.K.) as a coloring component, 0.3 part by weight of Flowlen DOPA-33 (modified acrylic copolymer available from Kyoeisha Chemical Co., Ltd.) as a dispersant and 5 parts by weight of Darocur 1173 (2-hydroxy-2-methyl-1-phenyl-propane-one, available from Ciba Specialty Chemicals Inc) as a photoinitiator were mixed and the mixture was dispersed by using a bead mill. Filtration was conducted to remove impurities and homogeneous magenta ultraviolet ray curable ink was obtained. The viscosity of the obtained ink was measured to be 91 cps at 25°C and 13 cps at 60°C.--.

At page 30, the paragraph beginning at line 2 has been rewritten as follows:

--50 parts by weight of M-6500 (polyester acrylate, difunctional, Tg = 40°C, viscosity at 60°C 47 cps, available from Toa Gosei Co., Ltd.) as a reactive ~~oligomer-oligomer~~ oligomer, 43.7 parts by weight of M-220 (tripropylene glycol diacrylate, difunctional, Tg = 90°C, available from Toa Gosei Co., Ltd.) as a reactive diluent, 1 part by weight of HOSTAPERM BLUE B2G-L (phthalocyanine blue, available from Clariant Japan K.K.) as a coloring component, 0.3 part by weight of Flowlen DOPA-33 (modified acrylic copolymer available from Kyoeisha Chemical Co., Ltd.) as a dispersant and 5 parts by weight of Irgacure 907 (2-methyl-1[4-(methylthio)phenyl]-2-morpholinopropane-1-one, available from Ciba Specialty Chemicals Inc) as a photoinitiator were mixed and the mixture was dispersed by using a bead mill. Filtration was conducted to remove impurities and homogeneous blue ultraviolet ray

curable ink was obtained. The viscosity of the obtained ink was measured to be 102 cps at 25°C and 14 cps at 60°C.--.

At page 31, the paragraph beginning at line 18 has been rewritten as follows:

--1 parts by weight of Ebecryl 270 (urethane acrylate, difunctional, Tg = -27°C, viscosity at 60°C 3000 cps, available from Daicel UCB Co., Ltd.) as a reactive ~~oligomer~~ oligomer, 92.7 parts by weight of SR-268 (tetraethylene glycol diacrylate, difunctional, Tg = 23°C, available from Sartomer Company) as a reactive diluent, 1 part by weight of HOSTAPERM PINK E-02 (quinacridone red, available from Clariant Japan K.K.) as a coloring component, 0.3 part by weight of Flowlen DOPA-33 (modified acrylic copolymer available from Kyoeisha Chemical Co., Ltd.) as a dispersant and 5 parts by weight of Darocur 1173 (2-hydroxy-2-methyl-1-phenyl-propane-one, available from Ciba Specialty Chemicals Inc) as a photoinitiator were mixed and the mixture was dispersed by using a bead mill. Filtration was conducted to remove impurities and homogeneous magenta ultraviolet ray curable ink was obtained.--.

At page 33, Table 2 has been amended as follows:

-- TABLE 2

	Ex. 4	Ex. 5	Ex. 6	Com. Ex. 4
Reactive <del>oligomer</del> oligomer/prepolymer				
Ebecryl 270	20.0			1.0
M-6500		50.0		
CN-981			30.0	
Reactive diluent				
SR-268	73.7		63.7	92.7
M-220		43.7		
Photoinitiator				
Darocur 1173	5.0		5.0	5.0
Irgacure 907		5.0		
Pigment				
HOSTARPERM PINK E-02	1.0		1.0	1.0
HOSTARPERM BLUE B2G-L		1.0		
Others				
Flowlen DOPA-33	0.3	0.3	0.3	0.3
Viscosity (cps/°C)	13/60	14/60	21.4/60	18/25
Dischargeability	O	O	O	O
Scratch resistance	O	O	O	x
Adhesion	O	O	O	x
Blurring of image	O	O	O	x

--; and

the paragraph beginning at line 7 has been rewritten as follows:

--According to the ultraviolet ray curable ink composition of the present invention, a reactive ~~oligomer~~ oligomer and reactive prepolymer can be added to the ink composition in a large amount and the cured film obtained is excellent in flexibility, strength and adhesion to the material. Furthermore, as a printed matter is obtained by discharging ink in a stable condition of reduced viscosity using a printer head which can be heated, irradiating with ultraviolet ray to cure, blurring of image does not occur.--